National Contact Point in POLAND

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HORIZON 2020

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I. INTRODUCTORY REMARK

Director of the Polish National Contact Point for Research Programmes of the EU

Zygmunt

Krasiński, PhD

Dear Readers,

I am proud to share with you the third edition of our Bulletin, where we keep you informed about Polish news and events in the area of research and innovation as well as success stories in Horizon 2020 Framework Programme.

On 27 October 2017 the European Commission announced how it will spend €30 billion of Horizon 2020 during 2018-2020. I would like to invite you to attend the brokerage events being a part of on-going European information campaign, especially Horizon 2020 Space Information Day and Brokerage Event in Warsaw on the 13-14 December. You shouldn't miss this opportunity if you are interested in: meeting other motivated Space actors from all over Europe and receiving first-hand information on the next Space calls 2018-2020 under Horizon 2020.

I recommend you to read an interview with Agata Janaszczyk, a Research Counsellor at the Permanent Representation of the Republic of Poland to the EU. She explains ongoing preparations to the future Framework Programme and clarifies why the need for excellence and the full use of intellectual capital of all European countries are so important to the EU.

I am glad to spread the news that the big Polish industry is becoming strategically interested in increasing participation in Horizon 2020. Two major Polish companies, KGHM Polska Miedź S.A. and Grupa Azoty S.A., concluded an agreement on close cooperation with the Polish National Contact Point for Research Programmes of the EU. KGHM Polska Miedź S.A. is also among the TOP 10 large companies from Poland which received the most funding in Horizon 2020 Programme. In this edition of the Bulletin we present the most successful SMEs, large companies and scientific entities.

I am convinced that everyone who enjoys news about innovations will find it interesting to check interviews with entrepreneurs whose innovative products are funded under Horizon 2020. One of them is Torqway Hybrid. It is a personal vehicle for those who are interested in spending time actively. And the second one is SOLACE House - a self-assembly house which is environment-friendly, cost-efficient and even generates income for the owner. Polish companies and research institutes present themselves to international partners periodically during study visits to Brussels. The visits are organized by the Polish NCP. In this Bulletin we summarize the study visit "Polish excellence for sustainable development of Bioeconomy in Europe" which took place in October.

We constantly encourage international researchers to carry on research in Poland. We present ImPRESS - a project of the Medical University of Bialystok. The project was awarded a grant under Horizon 2020, Marie Skłodowska-Curie Action COFUND and will be also co-financed by Polish Ministry for Science and Higher Education's programme: International Cofunded Projects.

In the section "Success stories in Horizon 2020" you can learn more about KGHM Polska Miedź S.A. company, which I mentioned before. KGHM is a partner in three projects implemented under the Horizon 2020 programme: BioMOre, DISIRE, and IntMet. You can also get information about Polish institutions which innovate European energy and about the achievements of the National Centre for Nuclear Research, which is a beneficiary of the TEAMING Phase 1 project.

Enjoy the lecture!

TABLE OF CONTENTS

Interview with **Agata Janaszczyk**

a Research Counsellor at the Permanent Representation of the Republic of Poland to the EU

Everybody's attention is fully focused on FP9

Agata Janaszczyk is a Research Counsellor at the Permanent Representation of the Republic of Poland to the EU. Previously she worked for the European Commission dealing with SMEs and financial instruments as well as the European Technology Platforms. Her practical experience with the Framework Programmes comes from the time when she managed an FP7 project in the Metal Forming Institute in Poznań. Agata holds Master's degree in international relations from the University of Economics in Poznań. She also studied European studies at the University of Hamburg.

Polish stakeholders emphasize the need for excellence and the full use of intellectual capital of all European countries. Why is it so important?

The question of excellence is quite complex as there is no straight forward answer as to how it should be measured. Based on our experience with Horizon 2020 to date it is measured differently in different Framework Programme parts. Excellence under the "Excellent science" pillar is not directly comparable with excellence in the "Societal challenges" pillar. Further deliberations on the definition of excellence should take place in order to establish a common ground for its understanding. We should not forget though that excellence is present in all Member States therefore it is crucial that we ensure participation of all excellent entities from all over Europe by taking into account the impact and the European added value of proposed projects.

The aim of all European programmes is to improve European citizens' well-being and trigger economic growth. How can we encourage stakeholders, including citizens, to be more involved in research and innovation and take a part in the Framework Programmes?

The issue that is very often being brought to the discussion is insufficient communication from the EU on available instruments but also on the impact of actions that were undertaken using those instruments. What emerged very strongly during the conference on the Future of R&I was the involvement of citizens in policy development which would entail consultations of the missions and the definition of problems to be tackled. This might lead to a completely new dynamic of the whole process, especially on the side of innovation and change the perception of the Framework Programme. Additionally in the global world we cannot afford to focus our efforts only at the national level. It is

crucial to expand and take co-ownership of the Framework Programme by taking part in it. Stakeholders should have the proof that their opinions count and their voices are being heard. The upcoming opportunity to express the views will be a stakeholder consultation on the next Framework Programme planned by the European Commission towards the end of this year. I encourage all of you to start preparing your inputs and presenting your views.

In how far has the long awaited conference "Research&Innovation, Shaping our Future" set the scene?

The aim of the conference that took place in Brussels on 3rd of July was indeed to set the scene and my impression is that it did. The recommendations that were presented provoked numerous discussions on the podium but mainly behind the scenes. This conference gave a huge spectrum of different stakeholders a chance to start reflecting and discussing based on something more solid than just rumors. Now equipped with two documents, the Lamy Report with its recommendations and the report prepared by MEP Soledad Cabezon Ruiz in the European Parliament, we can concretize our thinking and our actions. Already by looking at the recommendations we can notice that there is a need to mobilise some extra efforts to improve our performance as there is a lot at stake so negotiations might get harsh. All in all we need to approach this challenge with a strong vision and with a clear position in mind.

What will be the next steps in shaping the 9th Framework Programme (FP9)?

The interim evaluation of Horizon 2020 is out and despite of the fact that the Commission is still supposed to present its communication everybody's attention is fully focused on FP9. The Lamy Report that was presented during the mentioned conference was the first document that to a large extent set the tone of the discussion that is still to be held but that gave a flavor of what we could expect. A lot of important messages that give an indication of the desired changes have been presented. The Commission does not want to limit itself to hearing the views of high level experts and is actively consulting stakeholders on a variety of topics and will continue to do so during the public consultation. Its publication is foreseen before the end of this year and it will be the moment when everyone should speak their mind and provide a contribution to shaping the new FP.

What are the so called risk factors in the discussion on the 9th Framework Programme?

There are several initiatives which are slowly taking shape. One of the crucial ones will be the discussion on the future of the EU finances. The reflection paper that was published by the European Commission on 28th of June, being one in a series of 6 documents setting out concept and ideas about the future of the EU 27, calls for a reform. The depth and degree of the reform will need to be decided by the Member States, but the need for the reform seems undisputable. The five scenarios that have been presented give us an indication as to the possibilities offered. Now it will be up to the EU27 governments to decide where to go next. Moreover, next year, we will start negotiations on the next Multiannual Financial Framework, which will define our further steps. Another issue we must bear in mind is the upcoming change of the Commission and elections to the European Parliament in 2019 and all the consequences that might arise from it. The informal European Council meeting planned for February, in light of the Leaders Agenda, will be an opportunity to discuss both financial and institutional issues. ▪

Polish industry: strategy for Horizon 2020

Big Polish industry is becoming increasingly interested in involvement in the Horizon 2020 programme.

Two major Polish companies, KGHM Polska Miedź S.A. and Grupa Azoty S.A., concluded an agreement on close cooperation with the Polish National Contact Point for Research Programmes of the European Union. The agreement assumes activities aimed at increasing the Companies' activity and share in the projects under the Horizon 2020 Framework Programme, promotion of the programme and companies' potential, and widespread information on the results of projects completed, as well as support at the stage of application, search for partners to the consortium, and project implementation.

"Horizon 2020 programme is the biggest research and development project in the history of the European Union. KGHM carries out three projects under the programme, and we wish to extend out share, but also to support programme promotion in the Lower Silesia region. This is a programme carried out with 100% EU funds, giving access to the latest global technological thought, contributing to networking with foreign partners, and extending our own competences. For us, it is of major importance as new technologies are necessary for our development," said **Radosław Domagalski-Łabędzki**, President of the Board of KGHM Polska Miedź S.A., during the celebration accompanying conclusion of the agreement at the Company's seat in Lubin, Lower Silesia Province (the agreement was signed on 29 September 2017).

The Polish National Contact Point for Research Programmes of the European Union (KPK PB UE) supports Polish participation in the European Union framework programmes in order to strengthen the position of Polish science and innovation on the international scale.

The Horizon 2020 Framework Programme is the biggest European Union project in the area of scientific research and innovation, to be implemented in the period 2014-2020. The budget of Horizon 2020, of almost 80 billion euro, is to strengthen the role of science and innovation, and their application, among others, in industry. The objective of the programme is to develop world class science and technology in Europe to stimulate economic growth of European Union states and countries associated with the programme.

KGHM Polska Miedź participates in three projects implemented within the Horizon 2020 programme: BioMOre, DISIRE, and IntMet. The projects are 100% financed by the European Commission. The projects focus on effective raw materials management.

"Our perspective does not end with the year 2020. Our horizon is at least the year 2050. Strengthening of the non-ferrous metal manufacturing sector is one of European challenges, hence KGHM is a necessary partner. Technological excellence embedded in the Circular Economy and oriented at sustainable development is our goal. This vision determines our actions," stressed **Rafał Pawełczak**, Vice-President of the Board in charge of Development at KGHM Polska Miedź S.A.

In November, cooperation agreement was concluded with Grupa Azoty S.A.

"Conclusion of the agreement is a major event, as this opens new opportunities for the Grupa Azoty companies, particularly in the R&D&I areas. This matches the innovation programme and the Company's mission defined in the updated development strategy where we state that we build the value of both Grupa Azoty and the Polish economy on safe and useful chemistry based on innovation. The strategy of Grupa Azoty focuses not only on elongating the value chain in the specialist production, but also adopting new technologies with simultaneous process excellence. I am convinced that the cooperation with the Polish National Contact Point for Horizon

2020 Programme will create perfect conditions for the development of innovation in Grupa Azoty," said **Dr. Wojciech Wardacki**, President of the Board in Grupa Azoty.

"Innovation in contemporary chemistry is a major issue; the future of the Polish chemical industry to a large degree depends on it. Grupa Azoty wishes to use the good situation regarding investments in research and development, as well as opportunities offered by the contests within the Horizon 2020 Framework Programme. Through the involvement of Grupa Azoty, we wish to increase the share of Polish industry in the biggest EU Framework Programme. Among the Group's subsidiaries, there are already first proposals regarding prospective applications by Grupa Azoty SA to Horizon 2020 contests in the period 2018-2020. Under this Agreement, we also envisage participation of the representatives of Grupa Azoty, our collaborates, as well as research and development units in information days, training courses, workshops, broker meetings, and study visits organised by the National Contact Point for Horizon 2020 Programme," said **Grzegorz Kądzielawski**, Vice-President of Grupa Azoty.

"The Polish National Contact Point for Research Programmes of the European Union (KPK PB UE) operates at the Institute of Fundamental Technological Research at the Polish Academy of Sciences (IPPT PAN) and, together with the National Contact Point Network, for almost 20 years, has actively supported Polish participation in the European Union Framework Programmes in order to strengthen the position of Polish science and innovation on the international arena," said **Professor Tadeusz Burczyński**, Director at IPPT PAN. The Institute has preserved the highest scientific category A+ for the coming four years, running advanced interdisciplinary scientific research, and is also open to scientific and research cooperation with Grupa Azoty for the benefit of active participation in Horizon 2020.

Grupa Azoty is an undisputed leader in Poland, and one of major capital groups in the fertilizer and chemical industry in Europe. The Group ranks second in the European Union as regards the manufacture of nitrogen-based and multi-component fertilizers, and such products as melamine, caprolactam, polyamide, OXO alcohols, or titanium white, have a similarly strong standing in the chemical sector, with applications in many industrial sectors. In May 2017, Grupa Azoty presented its updated strategy up to the year 2020. Major development orientations include: completion of the Capital Group consolidation, strengthening its position among leaders in agricultural solutions in Europe, strengthening of the second operating pillar by development of non-fertilizer business, as well as generation and implementation of innovations acting as leverage for the development of the chemical sector. "Let us use the good situation regarding investments in research and development, as well as opportunities offered by the contests within the Horizon 2020 Framework Programme. This is a budget of about 30 billion euro in the last three years. This is what the planned joint measures by KPK and KGHM and KPK and Grupa Azoty are to serve for. We must use the experience of the companies, the leading actors, to increase the share of Polish industry in the biggest EU Framework Programme. Systemic actions give the opportunity of achieving goals set in the Sustainable Development Strategy," stresses **Zygmunt Krasiński**, PhD. Eng., Director of the National Contact Point for Research Programmes of the EU. ▪

TOP 10 Polish SMEs, large companies and scientific entities successfully funded in Horizon 2020

TOP 10 large companies from Poland which received the most funding in Horizon 2020 Programme

		The amount of funding (in euro)
1.	SELENA LABS Sp. z o.o.	4 016 380,21
2.	CRIST OFFSHORE Sp. z o.o.	2 408 690,00
3.	KGHM POLSKA MIEDŹ S.A.	1 220 000,00
4.	MOSTOSTAL WARSZAWA S.A.	1 216 865,32
5.	KRAJOWA AGENCJA POSZANOWANIA ENERGII S.A.	1 139 772,50
6.	ABB Sp. z o.o.	981 887,44
7.	ASTRI POLSKA Sp. z o.o.	964 333,00
8.	ORANGE POLSKA S.A.	958 625,00
9.	KGHM CUPRUM Sp. z o. o. CENTRUM BADAWCZO-ROZWOJOWE	955 625,00
10.	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	803 807,38

TOP 10 small- and medium-sized enterprises from Poland, which received the most funding in Horizon 2020 Programme

		The amount of funding (in euro)
1.	FUNDINGBOX ACCELERATOR Sp. z o.o.*	12 753 493,75
2.	SDS OPTIC	3 985 000,00
3.	SYNEKTIK S.A.	3 687 250,00
4.	ITTI Sp. z o.o.	2 239 800,00
5.	VIGO SYSTEM S.A.	2 233 525,00
6.	BILLON Sp. z o.o.	1 960 000,00
7.	METROSOFT POLSKA	1 846 018,00
8.	TORQWAY Sp. z o.o.	1 639 553,00
9.	INTELICLINIC Sp. z o.o.	1 624 875,00
10.	HARIMATA Sp. z o.o.	1 587 250,00

*Founding Box is a non-profit legal entity, which provides cascade funding from Horizon 2020 programme

TOP 10 universities and research organisations from Poland, which received the most funding in Horizon 2020 Programme

		The amount of funding (in euro)
1.	UNIWERSYTET WARSZAWSKI	14 898 763,23
2.	INSTYTUT CHEMII BIOORGANICZNEJ POLSKIEJ AKADEMII NAUK	14 604 888,63
3.	AKADEMIA GORNICZO-HUTNICZA IM. STANISLAWA STASZICA W KRAKOWIE	7 582 957,93
4.	INSTYTUT CHEMII FIZYCZNEJ POLSKIEJ AKADEMII NAUK	6 824 603,40
5.	POLITECHNIKA WARSZAWSKA	5 334 314,70
6.	INSTYTUT BIOLOGII DOSWIADCZALNEJ IM. M. NENCKIEGO POLSKIEJ AKADEMII NAUK	4 595 979,88
7.	INSTYTUT PODSTAWOWYCH PROBLEMOW TECHNIKI POLSKIEJ AKADEMII NAUK	4 465 081,62
8.	UNIWERSYTET JAGIELLONSKI	4 285 471,33
9.	INSTYTUT UPRAWY NAWOZENIA I GLEBOZNAWSTWA, PANSTWOWY INSTYTUT BADAWCZY	2 942 346,00
10.	UNIWERSYTET IM. ADAMA MICKIEWICZA W POZNANIU	2 936 812,34

Data based on eCO RDA v.9 refer to 404 calls closed before 30 September 2017.

Interview with CEO Torqway **Beata Paszke-Sobolewska**

Let's build local Torqway societies around the world

What is Torqway Hybrid?

Torqway Hybrid is an innovative personal vehicle for those, who are interested in spending time actively, keeping fit and staying in a good condition. The idea of our product is based on a brand new, patented mechanism of continuous levers movement powered by hands turning it into rotary movement. Thanks to this we can easily ride Torqway and for users it is a great opportunity for physical activity.

Torqway Hybrid is designed with additional power source – an electric engines which supports ride e.g. in more challenging terrain conditions. We named the Torqway's philosophy as „NORDIC DRIVING", because it's a creative combination of Nordic walking and personal transport.

Why do you decide to carry on this project?

Few years ago my husband, Andrzej Sobolewski, who is an engineer invented the mechanism used in Torqway and together with our son built first prototype at home. Our first commercial product - Torqway Sport, with mechanical drive was based on this prototype. So this is a little bit our personal, family story, but we found a huge potential of this project. There are many products for personal transport, but most of them are propelled fully electric. Our Torqway encourages people to physical activity at first. We think, that we found an attractive niche to carry on.

Who can use Torqway Hybrid and what are the benefits of using it?

Torqway Hybrid can be used by everyone. There is one special group, that we want to dedicate our product to. We're living in aging societies and one of our global challenges is to protect, take care and inspire the group of active elders. That's why we're targeting Torqway vehicles' offer especially to mature

users, fulfilling their needs of well-being, fun and satisfaction. It's a very important issue from social, cultural and economic perspective.

When we are talking about benefits for users, the most important thing is positive influence on health. Our effort while riding Torqway is 20% more efficient than marching. Moreover, we strengthen all our muscles in a balanced way. That kind of physical activity on the fresh air helps people stay in a good condition and avoid many civilization diseases. It's also a new category of personal transport, mostly for short distances. Additionally, it's a great opportunity for spending spare time with other Torqway users, building local Torqway societies around the world.

Torqway devices offers a new way of transport and a new solution to move for people with walking limitations. How does it work?

The idea of Torqway is the change of pendulum movement of the levers to rotary movement of the wheels thanks to innovative system of gears. While riding a Torqway we actively use all muscles from the upper to lower parts of our body, because of the cross movements, just like during Nordic walking exercises. Our device is safe and stable, so everyone can learn how to use it in a very short time. The product is addressed to active adult people, looking for attractive alternative on the market. Moreover, it is very convenient vehicle idea for those, who due to some reasons are not capable of doing sports that strain their joints too heavily.

Torqway Hybrid is a project funded under Horizon 2020 SME Instrument as an innovation in transport and smart cities mobility. How it can improve transport and mobility in the cities?

Torqway Hybrid is designed as a compact and user friendly device for transportation on short distances. Moreover during the ride we use only green energy – physical or electric. It can be used recreationally, to support rehabilitation processes , for sightseeing or just having fun with a friend. It also may be helpful in our everyday life to cover the "last mile" distances between our homes and public transport stations.

When will be the product available on the market and where are you going to sell it?

We will launch Torqway Hybrid in the 1st half of 2020. Currently, one of our hot topics is market research in terms of its potential, model of distribution, customer needs etc. We are going to introduce a global product to different geographical markets like European Union, USA and Far East.

What are the benefits from participating in Horizon 2020?

We would like to stress three main benefits:

- receiving financial support – our project is going to be funded by the European Commission up to 1.6 mln EUR
- world class business coaching – in Phase 1 H2020 we received 3 days of coaching, in the 2nd Phase – Torqway Team will be supported by 12 days of the coaching session.
- obtaining different business acceleration services based on access to the top European trade fairs and conferences or dedicated matching events with selected world-leading companies, corporates and procurers, as a distributor, client or supplier. ▪

Interview with **Piotr Pokorski**

co-founder of SOLACE House

To create a house that can reduce the cost of purchase and maintenance

How did you come up with the idea to create a self-assembly house which is shipped in one container? Moreover, the house is durable, environment-friendly, extremely cost-efficient and even generates income for the owner.

We came up with this idea because we are aware that high cost of housing is a serious problem. We believe that it is a shame that today a lot of people who work hard still cannot afford a proper place to live.

Our goal was to create a solution that can reduce the cost of purchasing and maintenance of the house. The great thing about it is that it was possible due to renewable energy - so the solution contributes to reducing the negative footprint on the environment as well.

We wanted to make the building process as simple as possible, and to avoid additional costs (as the cost of transport, the cost of construction, etc.) and, therefore, our house is delivered to its owner in a single container, so the owner can assemble it by himself.

Why did you name this house SOLACE?

The house was named SOLACE because we aimed it to be a solution for people who find it difficult to make ends meet due to high expenditures on housing. We believe that our solution will make people's lives much easier, and let them feel a sort of relief.

You claim that SOLACE house will cost 25 000 euro and it is the lowest possible price. How is this possible?

The price of SOLACE house was possible to achieve due to several factors, like optimal surface and capacity, shipping prefabricated materials and components in one 20-feet container, self-assembly, and application of energy-efficient devices.

SOLACE house can generate income for owners. Could you explain how?

SOLACE house is equipped with PV panels which generate electricity for the owners. In a building with very high energy performance, this superior thermal insulation fully meets the demand for electricity and, in the future, can supply it to the grid. Energy independence is possible thanks to a small area, cubic capacity, excellent thermal insulation, and energy-saving technical infrastructure. Taking into consideration the low price of SOLACE house, its total cost can be repaid during its life cycle approximately within 25 years.

The SOLACE house project, as one of the most innovative idea in European Union, received funds from Horizon 2020 Programme. You have already got a project of the SOLACE house. What will be the next step?

We have put a lot of effort in developing the concept of SOLACE house. Now it is time for us to let our company grow and sell houses that would become shelters for people who cannot afford a traditional house. This step will help us collect feedback from our customers, and it will be very valuable for us when we start developing the next model of SOLACE house. ▪

Interview with **Professor Marcin Moniuszko**

Vice-Rector for Scientific Affairs
of the Medical University of Bialystok,
Project Coordinator

Best Early-Stage Researchers will be able to gain scientific independence

A project of the Medical University of Bialystok titled: "International Interdisciplinary PhD studies in Biomedical Research and Biostatistics. Supporting the career and training in omic-based research and biostatistics by inter-national and -sectoral mobility" (ImPRESS) was awarded a grant under Horizon 2020 Framework Programme Marie Sklodowska-Curie Action COFUND (2018-2023). The project will be co-financed by the Polish Ministry for Science and Higher Education. What is the aim of the project?

The aim is to launch PhD Studies aimed at early-stage scientists, who will conduct research on life-style diseases and on biostatistics and bioinformatics methods necessary to process and interpret data obtained in research projects. The studies will provide an outstanding opportunity for in-depth education in high-throughput experimental and computational techniques used in genomics, proteomics, metabolomics and immunology.

Who could be a PhD student in the project?

We would like to attract candidates who are in the first 4 years of their research careers, but have not been awarded a doctoral degree, and have not lived in Poland for more than 1 year in the past 3 years. We will recruit 15 researchers who will be involved in research projects supervised by distinguished researchers from Poland and abroad with a profound expertise and experience in: Cancer/Mutagenesis, Cardiovascular Diseases, Population Medicine, Epidemiology, Diabetes/Obesity, Metabolic and Neurodegenerative Diseases, Regenerative Medicine, Molecular Biology, Genomics, Protein Analysis, Proteomics, Metabolomics/ Lipidomics and Immunology.

How will doctoral programme's curriculum look like?

PhD students will be employed on a full-time basis for 4 years at MUB. Their scientific development will be based **as well on an unique curriculum of the program as** on internships, short research visits, conferences and trainings at world-wide leaders, partner institutions: Heidelberg University, CEMBIO San Pablo University CEU, Vienna Biocenter, Spanish National Center for Cardiovascular Research, Bialystok University of Technology and CenStat at Hasselt University. Industry partner organizations: Agilent Technology, deCODE genetics, ideas4biology and Warsaw Genomics will invite PhD students for scientific visits and provide their know-how. Best early-stage researchers from the beginning of their academic career will be able to gain scientific independence. ▪

More information about the ImPRESS

Opening date of the call: 01.03.2018
Closing date of the call: 31.05.2018
Announcement of the results: July 2018

Gross remuneration: around 3000 EUR/month
Travel allowance: around 14 500 EUR/project

MSCA COFUND Projects in Poland

INSTITUTE OF PHYSICAL CHEMISTRY OF THE POLISH ACADEMY OF SCIENCE

Interdisciplinary NAnoscience School: from phenoMEnology to applicationS ('NaMeS')

From **2016-11-01 to 2021-10-31, ongoing project**

The project 'NaMeS' is aimed at creating a new generation of scientists, capable of working in both scientific and business sectors, and becoming the stimulants and intermediaries of knowledge & technology transfer on an international scale. NaMeS combines chemistry, physics, mathematics, biology and material science. The Project, benefiting from former IPC achievements in nanoscience, was designed to employ the phenomenological knowledge concerning nanoscale processes to the creation of new materials applicable in industrial technology, medical diagnostics and environmental protection (in line with regional and national SMART specializations).

Click for more information

NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY

International Doctoral Programme in Biological Bases of Human Diseases - Bio4Med (Biology for Medicine)

From **2015-05-01 to 2020-04-30, ongoing project**

The major aim of Bio4Med programme is to provide unique, international, inter-disciplinary and inter-sectoral doctoral training for Early Stage Researchers (ESRs) in the domain of biological bases of human diseases. To achieve this goal it combines 22 leading research groups at the Nencki Institute and their scientific partners from world-class laboratories located in EU Member States, Switzerland, Ukraine, Japan, Canada and US. Research programme includes basic science PhD-projects focused on molecular basis of neurodegeneration, neurological disorders, cancer and metabolic diseases. All supervising researchers engaged in the Bio4Med are at the international forefront of biomedical research and have experience in PhD student supervision. The programme will foster young researchers' career development and employability by addressing the following objectives: (i) to offer excellent training in modern biology and endow ESRs with unique scientific knowledge, and experience in cutting-edge experimental techniques; (ii) to enhance research-oriented and transferable skills of ESRs; (iii) to promote scientific mobility via international, inter-disciplinary and inter-sectoral collaboration.

Click for more information

NATIONAL SCIENCE CENTRE

Supporting mobility in the ERA through an international fellowship programme for development of basic research in Poland - POLONEZ

From **2015-09-01 to 2020-08-31, ongoing project**

POLONEZ is a Fellowship Programme supporting international incoming researchers working in the broad field of research regardless of their nationality. It is implemented by the National Science Centre (NCN), a government agency funding basic research in Poland. The NCN has already designed 11 funding schemes supporting researchers on every stage of their research career and regularly announces calls for proposals. The Centre is also involved in international funding initiatives, e.g. ERA-nets, JPIs. It follows a strictly bottom-up approach, allowing researchers to freely choose their research topic and host institution. POLONEZ, planned for 60 months, enables the NCN to implement 3 calls for proposals in order to select 90 fellows. It is targeted at experienced researchers who applied for 12-24-month-fellowships in host institutions in Poland, both academic and non-academic, public or private. Apart from living, mobility and family allowances, they are offered a research grant which amounts to ca. € 4 200 per month, to cover the costs of a research project in a discipline freely chosen by the applicant. The fellows are also given an opportunity to participate in a variety of research and non-research trainings provided by the NCN and the host institution. One of the main goals of POLONEZ is to enhance incoming mobility in Poland.

Click for more information

Source: cordis.europa.eu

Polish Programmes

The Foundation for Polish Science - the largest NGO providing competitive funds for science in Poland – invites scientists from all over the world, irrespective of their nationality, to respond to call for proposals in the wide range of programmes implemented by the Foundation and financed form the Smart Growth Operational Programme 2014 - 2020.

Grants for experienced scientists

The TEAM programme offers funding for research teams led by distinguished scientists. Pursued projects shall involve R&D programme enabling breakthrough scientific research of major significance for the society and economy. Projects must be carried out in cooperation with a foreign partner.

The aim of the TEAM-TECH programme is to fund research teams headed by distinguished scientists pursuing excellent and competitive R&D projects leading to development of new technologies, processes, and innovative products or services.

In both programmes applicants must be scientists holding at least a PhD degree. Funding is awarded for a period of up to 3 years (with a possibility of extension for a further 2 years). It is recommended that the project budget does not exceed EUR 900 000. Projects may be carried out in Poland at research institutions or enterprises or in scientific/industrial consortia.

The call for applications in the TEAM and TEAM-TECH programmes will be announced in Mid-November 2017 with its deadline in Mid-January 2018.

Call for applications - International Research Agendas competition 8/2017

The Foundation for Polish Science has announced a new competition within the International Research Agendas (IRAP) programme. The deadline for the first part of the IRAP application is 20 December, 2017.

Applications in competition 8/2017 (standard module) can be made by outstanding scientists from all over the world planning to implement their IRAP project in a research unit located in Poland. The total funding available within the programme amounts to PLN 140 million.

The International Research Agendas programme has been offered by the FNP since November, 2015 and is co-funded from the EU's Smart Growth Operational Programme. The scheme aims to enable the creation of specialised, world-leading scientific units in Poland that will follow best global practices in terms of identifying research topics, managing the research process, HR policy and the commercialisation of scientific results.

We welcome applications by scientists willing to lead the project and manage the entire IRAP unit during its first years of operation. Collaboration with a research institution from abroad renowned for its work in a relevant scientific field is a necessary condition to apply. Each winning project will obtain support necessary to carry out its scientific agenda, with a suggested grant total of PLN 35 million for the duration of 5 years, which can be extended. The grants are awarded through a competition process. Each application undergoes a three-stage merit-based assessment carried out by international reviewers and two panels of experts: scientific/economic and interdisciplinary.

Detailed information on the IRAP LINK

Meet the Winners of the second competition in the International Research Agendas Programme

More information about FNP programmes

Innovations tested at KGHM

KGHM Polska Miedź is a partner in three projects implemented under the Horizon 2020 programme: BioMOre, DISIRE, and IntMet. The projects are 100% financed by the European Commission. The Rudna Mine is the site of BioMOre experiment.

BIOMOre
An Alternative Mining Concept

The full name of the project is: "New Mining Concept for Extracting Metals from Deep Ore Deposits using Biotechnology." The experiment involves an attempt to apply acid and bacteria to recover copper directly from the ore body using a leaching solution. Over 20 partners worldwide are involved in the project.

"KGHM holds the prestigious role of BioMOre coordinator. Management of a project worth 8.5 M EUR means that the Company's rank and operating capacity are appreciated, and at the same time it makes it possible for us to gain new competences. This is one of three projects carried out by KGHM under the European Union's Horizon 2020 programme. This is the largest research and innovation programme in the EU's history, and we must be able to use it. This is exactly what we are doing," says **Rafał Pawełczak**, Vice-President of the Board in charge of development.

Within BioMOre, an underground installation was designed and completed for performing the bioleaching test in the ore under realistic conditions.

"The main objective of the BioMOre project is to verify the feasibility of combining channelling and bioleaching technologies under real conditions, with the aim of recovering metals from deep or poor ores located in Europe," says **Paulina Mołodyńska-Glapska**, Project Manager from the KGHM Polska Miedź Research and Development Department.

The project installation is located in a specially prepared chamber in the Rudna mine. In stage one, standard equipment operating in the mine were used to drill holes into an uncovered sandstone block to create the necessary flow paths. Such prepared ore, after checking for leakages and security of the safety pillar around it, is subject to the leaching process. Tests involve detailed monitoring of all the parameters of significance to the process. No hazardous substances will be used or generated during the test.

"This is an experiment that has never been performed elsewhere. We have two main goals: first, to check whether the process is technically feasible, and second, to collect as much data as possible to critically assess the economic viability and the sustainability of the project," says **Theodore Ineich** from HATCH UK. "The project involved the construction of a georeactor with the capacity of about 250 m3, made by the ZG Rudna staff. The reactor was connected to the pilot installation engineered and constructed by Hatch. The installation comprises several tanks, pumps, and the related equipment.

The BioMOre installation was assembled several weeks ago. It includes tanks, pumps, and monitoring devices to control such process parameters as pH, conductivity, or redox potential of the circulating solution. The experiment is divided into three stages.

"We are currently around one third into the test. We are completing the stage of desalinating the ore body using water. It was necessary to decrease the chloride content inside the georeactor. The next stage is the acid leaching stage, namely pumping acid into the ore block to remove carbonates. The third and ultimate stage will be bioleaching, during which bacteria and sulphuric acid solution will be utilised," said **Wojciech Anacki**, BMOre plant operator at ZG Rudna.

The role of the bacteria is to regenerate the original concentration of the substances required to leach copper. The first results

should be available towards the end of 2017.

"The first results of the test are expected at the turn of the year. At the same time, pursuant to the test results, an economic report will be drafted with indication of potential sites where the technology can be applied in the future," assures **Paulina Mołodyńska-Glapska**.

Management of projects with 100% eligible costs included in the Project budget to be refinanced from the EU funds under the HORIZON 2020 Programme not only does not constitute a burden to the budget of KGHM Polska Miedź, but may also bring about tangible benefits in the form of participation in the development of a new technology of ore extraction.

KGHM Polska Miedź S.A. holds the prestigious role of Project Coordinator and WP3 Work Package Leader.

Total budget of the Project is 8 564 962.00 EUR.

Other KGHM Polska Miedź S.A.'s projects under Horizon 2020

DISIRE – the main assumption of the DISIRE project is to develop a new methodology for assessment and control of the production process based on raw material properties and the required product parameters. The project is of interest to the metal industry sector. It is aimed at improving the efficiency of industrial processes.

The program has 15 international partners, and its completion is planned for Q1 2018. The budget of the initiative totals 5.9 M EUR.

IntMet – the main objective of IntMet is to apply hydrometallurgical systems for concentrate processing to improve efficiency and increase the yield of raw materials (copper, zinc, lead) by over 60% as compared to currently applied selective flotation. This is aimed at maximum efficiency of metal recovery and at minimised energy consumption, and reduced negative environmental impact.

The program has 12 international partners, and its completion is planned for Q1 2019. The budget of the initiative totals 7 999 328.00 EUR.

Source: KGHM Polska Miedź S.A.

Polish institutions innovating European energy

A complete energy transformation is happening before our very eyes. There is a steady increase in demand for energy, both in Poland and across the world. We cannot imagine life without energy-consuming smartphones, laptops, or a whole lot of household appliances that make life easier for us. Soon, it may turn out that we will not be able to function without electric vehicles or other devices that increase the demand for energy, which we do not even dream of yet. Changes are fast and dynamic, but one thing is certain – in the coming years,

we will need more and more energy.
There are some global trends which will significantly affect energy production and consumption. The most important of them include: digitalisation, decarbonisation, consumer focus, energy efficiency, smart grids, and smart cities. Horizon2020 supports innovative solutions taking into account all the global trends. Polish organizations are also taking part in the European energy transformation.

The share of renewable energy in the European energy mix will increase, as this fits in the **decarbonisation** trend. There is a great potential, for example, in tidal energy. One of the latest projects in this field is **OCTARRAY**, with large contribution of Polish **CRIST OFFSHORE** company. The objectives of the project are to develop, construct, and operate a tidal turbine array in real conditions, as well as to test and confirm the technical and economic viability of tidal energy in preparation for developments on an industrial and commercial scale. The test site is located between Cap de la Hague and Alderney Island on the English Channel. This will be a huge step to bring the technology closer to the market.

Because the cheapest and the cleanest is the energy which we don't have to produce, the one we save by being more efficient, **energy efficiency** is crucial. This trend gave rise to **InDeal** project involving Polish companies **IZNAB** and **PROMAR**. The target of InDeal is to implement an automated system that will guarantee the increase of overall energy efficiency by fair distribution of heating and cooling energy demands. It will be a significant step forward, contributing to wider use of intelligent district heating and cooling systems, as well as integration of renewables, waste, and storage.

Integration of European energy system is one of the biggest challenges. To achieve this, we need smarter and better-connected distribution and transmission grids. One of on-going projects in this area is **UPGRID**, participated by two Polish companies - **ENERGA OPERATOR S.A. and ATENDE S.A.**, one Polish university - **Politechnika Gdańska** and a Polish research institute - **Instytut Energetyki**. The project is aimed at developing integrated solutions for the low-voltage grid, using, for example, new smart grid devices and active demand management. All the ideas are tested in Spain, Portugal, Poland, and Sweden, and will be ready to replicate later to help pave the way to a high-quality, efficient, and consumer-oriented **smart grid**.

European energy transformation is turning towards the **consumer**, putting consumer needs and habits in focus. This is why Horizon2020 supports many projects to raise consumer awareness, understand the needs, and promote better habits. One of the examples here can be formed by **UtilitEE** project. The consortium with Polish **TAURON** company on board focuses on discovering, quantifying, and revealing energy-hungry activities, and delivers feedback to engage users into a continuous process of learning and improvement. It will also incorporate human-centric intelligent control features to minimize energy waste, while always keeping users comfortable, and preserving a healthy indoor environment. The concept will be validated in real-life conditions by a large population of residential and commercial consumers, with the aim to reduce energy consumption by approx. 30%. A holistic roadmap and business plan for the application and replication of project results will be delivered.

As more and more people live in the cities, cities have to transform into **smart cities** in order to adjust to the changing needs. The **SHAR-LMM** project, participated by the Capital City of **Warsaw**, is developing smart city solutions with high market potential for e-mobility and energy management. While promoting electric car sharing, installation of charging points, expanding e-bike sharing schemes, implementing smart parking technologies, and involving citizens, the project shows how smart cities should operate.

The trend which will be probably most important for future energy transformation is digitalisation. Accelerating the transformation

into a more competitive economy is impossible without digitalisation. This is visible in many Horizon2020 projects, also in the field of energy. One of the newest projects focused on this topic is **EU-SysFlex**. A large consortium with many distribution companies (such as Polish **PSE** S.A.), system operators, and research facilities (such as Polish **NCBJ**), are involved in cross-border collaboration to provide new system services and products using data management and ICT technologies.

Above, you can see just some of many very interesting projects in progress. In the next three years (2018 – 2020), more stimulating calls in the field of energy are waiting for innovators to be confronted with the challenges. Surely, further Polish institutions will be involved in energy transformation supported by Horizon2020.

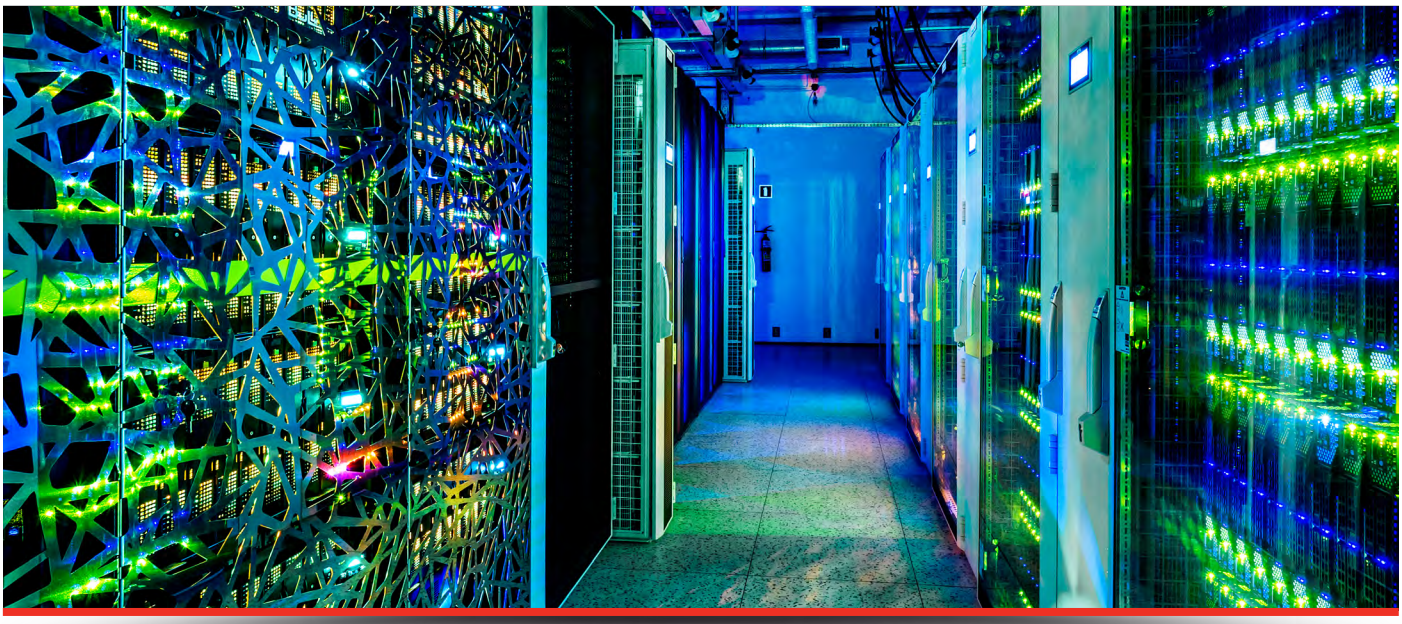
If you have any questions,
please contact our Polish NCP expert
Maria Śmietanka, Phd
e-mail: maria.smietanka@kpk.gov.pl

National Centre for Nuclear Research project achievements in 2017

National Centre for Nuclear Research (NCBJ) is one of the largest and best research institutes in Poland (1118 employees, including 59 professors and 151 PhDs; H-index 141, Category A+). Located in 40 ha area near Otwock, NCBJ operates unique research infrastructures, like nuclear reactor MARIA and CIS supercomputer centre.

Currently, NCBJ implements 180 research projects. Only in 2017, NCBJ received funding and started 72 new projects, including 5 new **EURATOM** and 2 new **Horizon 2020** (H2020) projects. In 2016, NCBJ drafted and submitted 22 applications to REA-EC, which yielded an overall 32% success rate (71% for EURATOM). NCBJ currently coordinates three H2020/EURATOM projects: **VINCO**, **GEMINI+**, and **NOMATEN TEAMING**.

NCBJ is one of three Polish organizations to win, in 2017, the prestigious **TEAMING Phase** 1 project, which is a preparatory phase for the creation of the international **NOMATEN Centre of Excellence on Material Research**. NOMATEN CoE will design and study the behaviour of materials resistant to high temperatures and radiation, which are needed for new generation of nuclear reactors, as well as for chemical and coal industries. It is planned



that NOMATEN CoE will be also supported by Foundation for Polish Science via International Research Agenda programme.

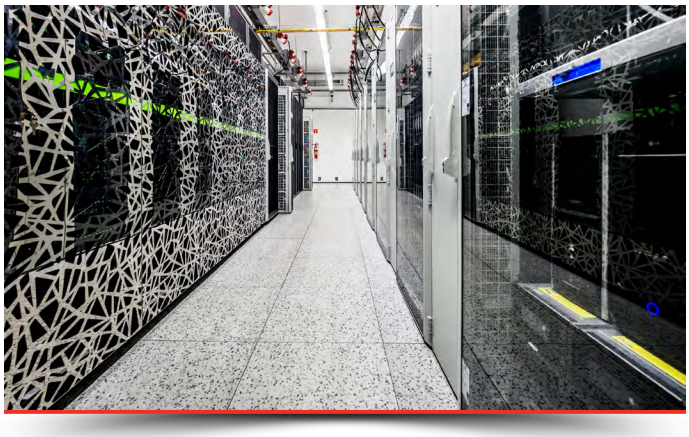
The NCBJ's **POLATOM** Radioisotope Centre has received 25 MEUR funding from Polish Scientific Infrastructure Roadmap for **CERAD** project to build new laboratory equipped with 30

MeV cyclotron accelerating protons, deuterons, and alpha particles. CERAD Laboratory will design new radiopharmaceuticals, conduct synthesis and selection of carrier molecules based on computational simulations and pre-clinical studies, efficiency and safety evaluation of new targeting molecules, and perform pharmaceutical validation.

In October 2017, NCBJ has been awarded an 8 MEUR project **CentriX**, financed by the Masovian Regional Operational Funds. This infrastructural project is aimed at building a dedicated industrial radiography laboratory, using newest technologies developed at NCBJ, most importantly a novel 30MeV linear electron accelerator and fast radiography lab. The new infrastructure would be accessible to the NOMATEN team, and would allow to expand the range of possible material research.

There are two specialised units at NCBJ to support projects. A **Project Preparation** unit helps to find suitable call and write proposal in the required format. It sometimes uses internal or external consultants, and does pre-evaluation before submitting. In particular, this unit takes care of administrative, implementation, and budget part of proposals. It also validates the proposal before submission and, in the case of successful projects, performs some starting formalities (contract negotiations, all paperwork related with Grant and Consortium Agreements, etc.). A **Project Administration** unit takes care of running projects, in particular time-sheets, payments, bookkeeping, and reporting.

NCBJ carries some H2020-related activities (e.g. information activities, Info-Days, Brokerage Days) in an efficient and productive partnership with NCP-PL.



Source: NCBJ

Photo: NCBJ

Polish companies present themselves to international partners

The Polish National Contact Point for Research Programmes of the EU periodically organizes Polish industry's study visits to Brussels. They are aimed to present the potential of Polish companies and help them establish international contacts that will result in joint implementation of projects as part of the programme Horizon 2020 and other EU initiatives.

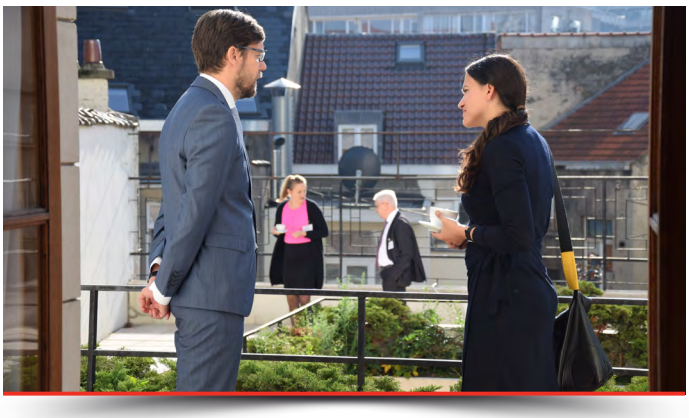
In October this year, the Polish National Contact Point for Research Programmes of the EU, in co-operation with the Embassy of the Republic of Poland to the Kingdom of Belgium and the Polish Science Contact Agency "PolSCA" in Brussels, organized a study visit under the slogan "Polish excellence for sustainable development of Bioeconomy in Europe".

The event's content partner was the Permanent Representation of the Republic of Poland to the EU, and the strategic partner was KGHM Polska Miedź S.A. The honorary patronage over the event was assumed by the Ministry of Science and Higher Education, Ministry of Development, as well as Ministry of Agriculture and Rural Development.

The meeting was attended by representatives of institutions that have a tangible influence on the shaping of the R&D and implementation policies of Europe's bioeconomy sector. The participants included: Polish members of the European Parliament: **Jerzy Buzek** – Chair of the Committee on Industry, Research and Energy (INTRE), **Czesław Siekierski** – Chair of the Committee on Agriculture and Rural Development, **Andrzej Grzyb** – member of the Committee on the Environment, Public Health and Food Safety. Also present were: **Tomasz Calikowski** – representative of the European Commission's Directorate-General for Research and Innovation, as well as the managing directors of two initiatives: Bio-Based Industries Joint Undertaking – **Philippe Mengal** and Bio-Based Industries Consortium – **Dirk Carrez**.

Among those who came to Brussels were representatives of the business community: KGHM Cuprum, Barlinek, Selena Labs, Biotrem, IZNAB, Maspex, Association of Polish Papermakers (SPP), Bipromet, Biotechnika, Apeiron Synthesis, Food4Life, as well as representatives of Polish universities and scientific and research institutes.

Participants were greeted by the Ambassador of the Republic of Poland in Brussels, **Artur Orzechowski**. The next speaker was Professor **Jerzy Buzek**, who emphasized that the priority for the European Union is development and innovation. He recalled the Lodz Declaration of Bioregions (signed last year), which sets out directions for bioeconomy development.



Global bioeconomy is to be built at the local level – that of gminas (communes), villages and small towns. Development of bioregions should play a crucial role in rural regeneration, environment protection, climate change mitigation and building of industry that is based on a circular economy. The idea is that manufacturing processes should no longer produce just the final product and waste. The waste is supposed to be treated as raw materials for new branches of industry.

Monika Rzepecka, adviser to the Minister of Science and Higher Education, discussed recent initiatives of the European Commission relating to bioeconomy. She reminded those present that the Horizon 2020 Work Programme 2018-2020 for this area is ready by now.

Director of the Polish National Contact Point for Research Programmes of the EU, **Zygmunt Krasiński**, pointed out that it was the fourth time the National Contact Point had organized a Study Visit to Brussels. He added that those actions bring tangible results. "We are glad that this visit has attracted so many firms that want to take part in Horizon 2020" – said Director Krasiński.

Tomasz Calikowski (DG R&I) presented assumptions of the EU policy in the area of research and innovation in the bioeconomy sector, as well as a vision for its development in the new financial perspective, whereas **Philippe Mengal** (BBI JU) and **Dick Carrez** (BIC) talked about the opportunities offered by partnerships operating within the framework of Horizon 2020 when it comes to implementation of innovative technological projects which use raw materials of biological origin. Professor **Stanisław Bielecki**, Director of the Institute of Technical Biochemistry (Technical University of Lodz), presented his assessment of the Polish potential in this sector and recommendations for its further development in Poland – in the area of research and development as well as that of legislation and education. This part of the meeting was closed by the presentation by **Aleksandra Małyska** of ETP, who, using specific examples, demonstrated benefits derived by members of European Technological Platforms from their participation.

The pivotal point of the second day was the session "Poland for European Innovations". Undersecretary of State at the Ministry of Development, **Jadwiga Emilewicz**, outlined Polish government's plans aimed to support innovation. Among those plans, she mentioned responsible investments, use of financial instruments, and the necessity for the sector to evolve towards production of highly-processed goods. **Andrzej Grzyb** (MEP) talked about how the paradigm of sustainable development is changing, which requires a greater use of knowledge and bringing of various sectors together. He emphasized that without local communities being involved, sustainable bioeconomy is not really possible. **Andrzej Siemaszko**, who represented the Marshall of Lodz Voivodship at the meeting, indicated that Poland is among European leaders in food production with considerable biomass resources, but Polish producers should be more aware of the value of cooperation. He added that a national strategy for bioeconomy development is needed.

This was the fourth one in a series of Study Visits, organized in Brussels by the National Contact Point for Research Programmes of the EU, aimed to increase Polish companies' chances for participation in European R&D initiatives and projects. Previous events were concerned with the power, chemical and ICT sectors.

Horizon 2020 Space Information Day and Brokerage Event in Warsaw

Programme Horizon 2020 is about to take the next step: The final version of the Work Programme for the 2018-2020 Space call with the budget exceeding **700 mln euro** will be presented at the **Horizon 2020 Space Information Day and Brokerage Event in Warsaw**.

You shouldn't miss this opportunity if you are interested in:

- meeting other motivated Space actors from all over Europe
- receiving first-hand information on the next Space calls 2018-2020 under H2020

On 13-14th of December 2017 you will have a chance to meet the authors of the call text from **EC, REA, EASME and GSA**.

Make the most of this chance to network with other participants on potential future projects.

The event will be organised by ***COSMOS2020 - the Network of Horizon 2020 SPACE NCP, NCP in Poland with support of the European Commission***.

If you have any questions, please contact our Polish NCP expert Piotr Świerczyński.
e-mail: piotr.swierczynski@kpk.gov.pl

We strongly encourage you to participate in this particular event!

More information about the event

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